

AMENDMENTS TO THE SPECIFICATION

Please insert the paragraph beginning on page 2, before line 6, as follows:

US 5,736,960 A discloses a satellite-based navigation method for the determination of the position of a receiver by ascertaining the signal propagation time between satellites and the receiver, the receiver having a precise time reference and an absolute time signal from a fixed reference station with precisely known position being utilized.

Please amend the paragraph beginning on page 2, line 8, as follows:

This aim is attained through a satellite-based navigation method of the above type with the characteristics of claims 1 and 2. Therein the receiving time of satellite signals at the receiver (1, 5) is determined by means of a precise time reference in the receiver (1, 5) as well as also from the satellite signals and these are compared with one another. ~~This aim is attained through a satellite-based navigation method of the above type essentially thereby that the receiving time of satellite signals at the receiver (1, 5) is determined by means of a precise time reference in the receiver (1, 5) as well as also from the satellite signals and these are compared with one another.~~ Equipping the receiver with a precision clock, for example a rubidium clock, makes available a highly precise time reference in order to determine the receiving time highly precisely. By comparison of receiving times ascertained in different ways it is therefore possible to recognize whether interferences are present during the reception of the signals. With this method, thus through the reception of at least two or three satellite signals in track-guided or surface-bound systems indirect signals can also be recognized, which, due to the shadowing off of the direct signal from satellite to receiver, are only received via a reflected signal. In this case the pseudo-distance

$$\rho_i = \sqrt{(\bar{x}_I - \bar{x}_R)^2} + \sqrt{(\bar{x}_R - \bar{x})^2} + c \cdot \Delta t + \varepsilon$$

is correspondingly longer, x_R being the position of the reflector. If such shadowing off is not recognized and the signal is utilized for position calculation, an erroneous position determination results. Depending on the position of the satellites relative to the receiver, in contrast, with the present invention the time offset due to the reflection can be recognized. In addition, the time error Δt dominating in the pseudo-distance ρ_i of the receiver clock is not applicable, such that the pseudo-distance is determined more precisely and the reception of at least four satellite signals for the three spatial coordinates and the time error are no longer required. In this case a three-dimensional position determination can already be realized with three satellite signals. If the receiver can only move along a known track, for example in the position determination for trains bound to the rail network, according to the conventional method, it is already sufficient to determine only two unknowns, namely the track-kilometer and the time offset. In this case two satellites suffice for the position determination. If, in contrast, according to the invention the receiver is equipped with a highly precise clock, which, as a rule, is omitted for reasons of cost, the time offset no longer needs to be determined, such that in principle even only one satellite for each determined coordinate is sufficient.